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Space exploration

NASA aims to return astronauts to moon

The oft-delayed Artemis II mission will soon have lift-off

Leah Crane

ASTRONAUTS are heading back to the moon for the first time in over half a century. NASA's Artemis II, scheduled to launch no later than April 2026, will take four astronauts in a loop around the moon, setting the stage to put boots on the lunar surface once again.

The mission has been repeatedly delayed from its original planned launch time between 2019 and 2021 due to complications on the ground, but it is looking hopeful that the wait could now be over at last. In September 2025, NASA stated that the Space Launch System (SLS) rocket is "ready to fly crew", and in November, the Orion crew capsule was stacked atop the rocket for a final series of tests. In fact, NASA has even said it

hopes to move the launch up to February rather than April, though it is unclear if that will happen.

The four astronauts selected as crew members for the mission are Reid Wiseman, Victor Glover, Christina Koch and Jeremy Hansen. The first three are all NASA astronauts, each of whom has been to space once before, and Hansen is an astronaut from the Canadian Space Agency – this will be his first mission.

"As astronauts, we sign up to be the people to execute and operate the missions because we believe in human space flight; we believe in exploration," says Koch. "To get to fulfil that personal mission in a new way, doing something we haven't done in over 50 years,

"As astronauts, we believe in human space flight; we believe in exploration"

is just absolutely phenomenal."

Artemis II will last for about 10 days, beginning with two days orbiting Earth before the spacecraft heads off towards the moon. During those first two days, the astronauts will test out the life support systems, as well as a protocol for meeting up with other spacecraft in orbit, which will be performed with a used-up and jettisoned rocket stage.

First steps

Then, the Orion capsule will fire its main thruster and jet off in a figure-of-eight loop around the moon. It won't enter lunar orbit. Instead, it will circle the moon just once before heading home. The closest approach to the moon will take the capsule about 7400 kilometres from its surface. At the end of the mission, the spacecraft will splash down in the Pacific Ocean.

It is a fairly similar mission profile to the Artemis I mission, which circled the moon in November 2022 as a first flight test of SLS and Orion. But that mission didn't have a crew. Since then, a few changes have been made to the spacecraft: among other things, its navigation and communications systems have been improved, some extra plates have been added to the exterior of SLS to dampen vibrations, and, of course, Orion has been outfitted with all the necessary systems to protect the astronauts.

Nevertheless, this, too, is a test flight. If all goes well, it is meant to set the stage for Artemis III in 2027, when astronauts will finally set foot on the surface of the moon for the first time since humanity's last visit on the Apollo 17 mission in 1972. But concerns about SpaceX's Starship lander, which is meant to ferry the crew to the lunar surface, could see that moment pushed back even further.

A lot is resting on the continued success of the Artemis programme, with more missions of increasing complexity planned through the 2030s and an eventual goal of setting up a permanent human presence on the lunar surface. ■



Left: Assembling the rocket
Below: Artemis II crew (left to right): Reid Wiseman, Victor Glover, Christina Koch and Jeremy Hansen



NASA/KEVIN DAVIS; NASA/FRANK MICHAUX